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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/044,466	01/10/2002	Dennis J. Brunner	89190.079101/DP-305547	9887

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EXAMINER

FERGUSON, MICHAEL P

ART UNIT	PAPER NUMBER
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3679

DATE MAILED: 12/09/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/044,466

Applicant(s)

BRUNNER ET AL.

Examiner

Michael P. Ferguson

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-9 and 13 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-9 and 13 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 10 January 2002 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. §§ 119 and 120**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.  
a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

**Attachment(s)**

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

## DETAILED ACTION

### *Claim Objections*

1. Claims 1 and 13 are objected to because of the following informalities:

Claim 1 (line 10) recites "keyway bottom and". It should recite --keyway bottom portion and--.

Claim 13 (line 10) recites "keyway bottom and". It should recite --keyway bottom portion and--.

For the purpose of examining the application, it is assumed that appropriate correction has been made.

### *Claim Rejections - 35 USC § 102*

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1-9 and 13 are rejected under 35 U.S.C. 102(b) as being anticipated by Morelli et al. (USPN 5,688,070).

As to claim 1, Morelli et al. discloses an apparatus for securing a hub to a shaft, comprising:

a) a cylindrical shaft **144** having a longitudinal keyway formed in an outer surface thereof, the keyway having a bottom portion and two side walls;

b) a hub **164** having a cylindrical axial bore (having a keyway; the axial bore is cylindrical in the same manner in which the shaft is cylindrical, both having a keyway)

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defining a wall in the hub and being disposable on the shaft to define a maximum distance from the keyway bottom portion to the bore wall; and

c) a tapered locking key **56,171** (taper shown in Figure 4) for insertion into the keyway between the keyway bottom portion and the bore wall, the key having a pre-insertion maximum height greater than the maximum distance such that the hub is deformed by the insertion, whereby the hub is rotationally and axially secured onto the shaft (Figures 4-6h, column 1 lines 12-36, column 4 lines 9-39).

As to claim 2, Morelli et al. discloses an apparatus wherein a hub **164** is formed of a deformable polymer having a first hardness (column 4 lines 9-39).

As to claim 3, Morelli et al. discloses an apparatus wherein a key **171** is formed of metal (column 4 lines 9-39).

As to claim 4, Morelli et al. discloses an apparatus wherein a key **171** has a second hardness greater than a first hardness (column 4 lines 9-39).

As to claim 5, Morelli et al. discloses an apparatus wherein a locking key **171** is an end key in a chain of connected keys (inherently, through the manufacturing process, whether extrusion or casting, locking key **171** is severed from a mass of raw material from which a chain of keys is produced), the end key being severable from the chain (during the manufacturing process).

Applicant is reminded that process limitations are given no patentable weight in product claims. See MPEP § 2113. "The patentability of a product does not depend on its method of production. " In re Thorpe, 777 F.2d 695,698,USPQ 964,966 (Fed.Cir.1985).

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As to claim 6, Morelli et al. discloses an apparatus wherein a shaft **144** is a throttle shaft and a hub **164** is a portion of a shaft rotary position sensor (Figures 5-6h).

As to claim 6, Morelli et al. discloses an apparatus wherein a shaft **144** is a throttle shaft (shaft **144** controls the speed at which other gears or members which are meshed with hub **164** rotate; thus shaft **144** defines a throttle shaft) and a hub **164** is a portion of a shaft rotary position sensor (other gears or members rotate in response to the rotary position of hub **164**; thus hub **164** defines a rotary position sensor).

As to claim 7, Morelli et al. discloses a method for securing a hub **164** having a cylindrical axial bore (having a keyway; the axial bore is cylindrical in the same manner in which the shaft is cylindrical, both having a keyway) defined by a bore wall onto a cylindrical shaft **144**, comprising the steps of:

- a) providing a longitudinal keyway in the shaft, the keyway having a bottom portion and two side walls;
- b) disposing the cylindrical axial bore of the hub onto the shaft to define a maximum distance between the keyway bottom portion and the bore wall;
- c) providing a wedging means **171**; and
- d) inserting the wedging means into the keyway between the keyway bottom portion and the bore wall (Figures 4-6h, column 1 lines 12-36, column 4 lines 9-39).

As to claim 8, Morelli et al. discloses a method wherein a wedging means **171** is a locking key having a maximum height greater than a maximum distance (Figures 4-6h).

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As to claim 9, Morelli et al. discloses a method further comprising the step of advancing a locking key **171** into a keyway until the point of a maximum height is axially centered within a hub bore (Figures 4-6h).

As to claim 13, Morelli et al. discloses an apparatus for securing a hub to a shaft, comprising:

a) a cylindrical shaft **144** (having a keyway; the shaft is cylindrical in the same manner in which the axial bore is cylindrical, both having a keyway) having an outer surface;

b) a hub **164** having an axial bore defining a wall in the hub and having a longitudinal keyway formed in an inner surface thereof, the keyway having a bottom portion, the hub being disposable on the shaft to define a maximum distance from the keyway bottom portion to the outer surface; and

c) a longitudinally tapered (tapered on a lengthwise edge) locking key **56,171** (taper shown in Figure 4) for insertion into the keyway between the keyway bottom portion and the shaft surface, the key having a pre-insertion maximum height greater than the maximum distance such that the shaft is deformed by the insertion, whereby the hub is rotationally and axially secured onto the shaft (Figures 4-6h, column 1 lines 12-36, column 4 lines 9-39).

3. Claim 13 is rejected under 35 U.S.C. 102(b) as being anticipated by Preston, Sr. (USPN 1,560,399).

As to claim 13, Preston, Sr. discloses an apparatus for securing a hub to a shaft, comprising:

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- a) a cylindrical shaft **22** having an outer surface;
- b) a hub **20** having an axial bore defining a wall in the hub and having a longitudinal keyway formed in an inner surface thereof, the keyway having a bottom portion, the hub being disposable on the shaft to define a maximum distance from the keyway bottom portion to the outer surface; and
- c) a longitudinally tapered (tapered on a lengthwise edge) locking key **10** for insertion into the keyway between the keyway bottom portion and the shaft surface, the key having a pre-insertion maximum height greater than the maximum distance such that the shaft is deformed by the insertion, whereby the hub is rotationally and axially secured onto the shaft (Figures 3-9).

#### ***Response to Arguments***

- 4. Applicant's arguments with respect to claims 1-9 and 13 have been considered but are moot in view of the new ground(s) of rejection.

#### ***Conclusion***

- 5. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the

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shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael P. Ferguson whose telephone number is (703)308-8591. The examiner can normally be reached on M-F (7:30-4:30).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Lynne H. Browne can be reached on (703)308-1159. The fax phone number for the organization where this application or proceeding is assigned is (703)872-9326.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703)308-1114.

MPF

  
**Lynne H. Browne**  
**Supervisory Patent Examiner**  
**Group Art Unit 3679**